

REMARKS

The Office Action dated January 4, 2005 presents the examination of claims 2-37 and 39-42. Claims 41 and 42 are added and correspond to claims 39 and 40, respectively. Support for subject matter added to claims 41 and 42 is found in the specification, such as on page 5, lines 12-18 and in the drawings. No new matter is inserted into the application.

Rejection under 35 U.S.C. § 103 (Pages 2-3 of the Office Action)

The Examiner maintains the rejection of claims 2-37, 39 and 40 under 35 U.S.C. § 103(a) for allegedly being obvious over Subramanian et al. (of record). Applicants respectfully traverse. Reconsideration and withdrawal of the instant rejection are respectfully requested.

On page 2 of the Office Action, the Examiner sets forth his reasons for maintaining the rejection of claims 2-37, 39 and 40 over Subramanian et al. In essence, the Examiner acknowledges that Subramanian et al. requires a porous element to achieve capillary flow of the sample into the reaction chamber. However, the Examiner states that the pending claims do not exclude additional elements in the reaction chamber for generating capillary forces. Applicants respectfully disagree with the Examiner's position and submit that Subramanian et al. fails to render the present invention obvious even if the claims encompass additional elements in the reaction chamber for generating capillary forces.

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some motivation or suggestion to modify the reference or combine reference teachings. Second, there must be a reasonable expectation of success. Third, the prior art reference (or references when combined) must teach or suggest all the claim limitations. In re Vaeck, 947 F.2d

488 (Fed. Cir. 1991). In the instant case, the prior art reference relied upon by the Examiner fails to teach or suggest all of the limitations of the instant claims. As such, the Examiner has failed to establish a *prima facie* case of obviousness and the rejection must be withdrawn.

Specifically, Subramanian et al. fails to disclose a sample support wherein the surfaces in the entrance region of the inflow channel are configured as a means for generating a capillary force causing the sample liquid to flow from the inflow channel into the reaction chamber exclusively by capillary force. In other words, Subramanian et al. does not configure the surfaces of the inflow channel as a means for generating capillary force. Instead, Subramanian '219 requires that a porous element is inserted into each chamber of the apparatus to generate the capillary force. The apparatus of Subramanian '219 does not contain surfaces arranged so that the fluid flows through channels by the capillary force as a result of the arrangement of the surfaces as in the presently claimed invention.

In contrast to Subramanian et al., in the present claims the sample liquid flows from the inflow channel into the reaction chamber exclusively by capillary forces that are generated by the arrangement of surfaces in the entrance region of the inflow channel, which delimit the cavity. The skilled artisan can easily perceive that the surfaces in the entrance region are configured as a means for generating capillary force. This feature of the present invention is described on page 5, lines 12-18 of the specification, which discloses,

To have this flow performed exclusively under the effect of capillary forces, it is provided according to the invention that, **in each reaction chamber, notably in the entrance region of the inflow channel, structures formed on the inner side of the reaction chamber or asymmetries are provided as means for generating a capillary force enabling a flow of the sample liquid from the inflow channel into the reaction chamber.** By the provision of such capillary-force generating means in the entrance region of an inflow channel into a reaction chamber, the sample liquid flow generated by capillary forces is maintained until the reaction chamber has been

filled.

As such, it is clear from the claims and the specification that the capillary forces are generated by the configuration of the inner surface of the reaction chamber, rather than the porous element utilized by Subramanian et al. The addition of other elements within the reaction chamber does not change the fact that, in the pending claims, the configuration of surfaces in the entrance region of the inflow channel is responsible for generating a capillary force.

In summary, even if the pending claim language is hypothetically open and does not exclude additional elements (as argued by the Examiner), a valid rejection under 35 U.S.C. § 103 is not established. Rather, the prior art must at least teach all of the limitations of the claims. Here, Subramanian et al. simply fails to disclose or suggest the configuration of surfaces in the entrance region of the inflow channel as means for generating a capillary force. Thus, Subramanian et al. fails to disclose or suggest all of the limitations of the pending claims and consequently fails to render those claims obvious under 35 U.S.C. § 103.

The Examiner also argues that the claimed structure for generating the capillary force is sufficiently broad and reads on the means taught by Subramanian et al. Applicants respectfully disagree. As noted above, an external object, the porous element, causes the capillary force in the apparatus of Subramanian et al. No such porous element is the “means” recited in the claimed invention. Instead, the means in the present invention is the specific design of the walls and surfaces of the chamber. In contrast, an external object, not a part of the apparatus, must be literally inserted into the apparatus of Subramanian et al. in order to generate the capillary forces.

For all of the above reasons, Subramanian et al. fails to render the pending claims obvious under 35 U.S.C. § 103(a). Withdrawal of the instant rejection is therefore respectfully requested.

Conclusion

Applicants respectfully submit that the above remarks and/or amendments fully address and overcome the outstanding rejections. For the foregoing reasons, Applicants respectfully request the Examiner to withdraw all of the outstanding rejections and objections, and to issue a Notice of Allowance indicating that claims 2-37 and 39-42 are allowed. Early and favorable action of the merits of the present application is thereby respectfully requested.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact the undersigned at the telephone number below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

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Respectfully submitted,

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